Energy Drink Consumption and Stress Levels of Undergraduate College Students Who Are Introverts and Extroverts

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Recommended Citation
Newlon, Katrina, "Energy Drink Consumption and Stress Levels of Undergraduate College Students Who Are Introverts and Extroverts" (2015). Posters. 17.
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ABSTRACT

The purpose of this quantitative comparative analysis study was to determine the difference between perceived stress levels, and caffeine consumption (energy drinks) among undergraduate college students who are introverts and extroverts. Study questions include: Is there a difference in levels of caffeine consumption (energy drinks) and students who are introverts and students who are extroverts? Is there a difference between students who consume caffeine (energy drinks) and stress levels? IRB approval was obtained for this study. Participants (N = 93) were undergraduate students and a sample of convenience. The study consisted of men (n = 47) and women (n = 46). An anonymous survey was distributed, and was self-disclosure style discovering gender, age, perceived and actual introvert/extrovert personality type, their caffeine consumption (energy drinks), and their perceived and actual stress levels. The survey included two Likert scales, one to determine level of stress, and another to establish introvert or extrovert status. From select questions in the stress scale, the results suggested that those who consume caffeine (energy drinks) were prone to a higher perceived stress levels.

BACKGROUND

The history of the effects of caffeine have been extended over time. Initial research began in 1912 by Holingworth about the potential effect of Coca-Cola in relationship to the mind [Landrum & Meliska, 1985, p. 4]. Later, in 1982 Everett suggested that in test situations caffeine “increased vigilance and decreased fatigue” [Landrum, & Meliska, 1985, p. 4] in a 1985 study “a significant positive correlation was found between extraversion/introversion scores and caffeine consumption, suggesting a strong relation between extroversion and caffeine use” [Landrum & Meliska, 1985, p. 1]. Pettit and DelBarr (2011) concluded that there was a correlation between energy drinks and perceived stress. Caffeine is now more accessible in different varieties. Energy drinks have become more popular. “In 2002, retail sales of energy drinks totaled $1.2 billion, but increased 440% to $6.6 billion in 2007” (McIlvain, G. E., Noland, M. P., & Bickel, R. (2011, July/August). Caffeine consumption patterns and sales of energy drinks.”

METHODS

The sample included all students who filled out the entire survey (n=43) at North and South Campuses of Montana Tech, Butte, MT, USA. All volunteers were enrolled at the college for the spring semester of academic calendar year 2014-2015. Researchers were not present during the distribution and collection of all surveys. Participants viewed the survey and wrote their answers down on a volunteer basis. All human subjects were protected following Institutional Review Board Guidelines (IRB) through the University of Montana. The study included participants age 18 or over with no participants under the age of 18. All students were asked to participate, but could waive their right to participate.

RESULTS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Extrovert</th>
<th>Introvert</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caffeine Consumption</td>
<td>Yes</td>
<td>51 54</td>
</tr>
<tr>
<td>RedBull</td>
<td>2 0</td>
<td></td>
</tr>
<tr>
<td>12oz.</td>
<td>6 2</td>
<td></td>
</tr>
<tr>
<td>Monster</td>
<td>5 0</td>
<td></td>
</tr>
<tr>
<td>NOS</td>
<td>2 0</td>
<td></td>
</tr>
<tr>
<td>RedBull</td>
<td>1 0</td>
<td></td>
</tr>
<tr>
<td>Energy Drinks</td>
<td>10 8</td>
<td></td>
</tr>
<tr>
<td>Class Consumed/Week</td>
<td>10</td>
<td>1</td>
</tr>
</tbody>
</table>

Upon running the data of the research, there were no significant differences between introverts/extroverts when considering caffeine (energy drink) consumption. The same was true when data was run within the stress scale, which was composed of ten Likert scale questions. Only upon looking at the individual stress question was a significant found. In four of the stress questions there was a significant difference in those who consume caffeine (energy drinks). From select questions in the stress scale, the results suggested that those who consume caffeine (energy drinks) were prone to a higher perceived stress levels. It is unclear from this study whether the caffeine (energy drinks) is causing the stress or participants are drinking caffeine (energy drinks) because they are stressed. The sample size is considered a limitation to this study particularly for the participants consuming energy drinks.

CONCLUSION

Although a small sample size was used for this study, some interesting percentages were evidenced within the sample. In the frequency distribution of the independent variables chart, under cans consumed per week section, 8 oz. cans were shown to have the highest consumption. The only energy drink that comes in 8 oz. is RedBull which is also used in popular alcoholic beverages. Further research on the rising trend of caffeine and alcohol could be of benefit and interest to students, faculty/staff of most colleges. Additional research is recommended given the growing trend of increased energy drinks.

REFERENCES


